

TEST PLAN

Cyclopropanecarboxylic acid, 3(2,2-dichloroethenyl)-2,2-dimethyl-, methyl ester
CAS No. 61898-95-1

STUDY	INFORMATION (Yes or No)	OECD STUDY (Y/N)	GLP (Y/N)	OTHER STUDY (Y/N)	ESTIMATION METHOD (Y/N)	ACCEPTABLE (Y/N)	SIDS TESTING REQUIRED (Y/N)
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Physical and Chemical Data

Melting Point	No						No
Boiling Point	Yes	No	No	Yes	No	Yes	No
Vapor Pressure	Yes	No	No	Yes	No	Yes	No
Partition Coefficient	No						Yes
Water Solubility	Yes	No	No	Yes	No	Yes	No

Environmental Fate

	Yes	No	No	No	Yes	Yes	No
Photodegradation	Yes	No	No	No	Yes	Yes	No
Biodegradation	No						Yes
Fugacity	Yes	No	No	No	Yes	Yes	No

Ecotox

Acute Toxicity to Fish – Rainbow trout	Yes	No	Yes	No	No	Yes	No
Toxicity to Algae	Yes	Yes	Yes	No	No	Yes	No
Acute Toxicity to Daphnia	Yes	No	Yes	No	No	Yes	No

Toxicity

Acute Oral	Yes	No	Yes	No	No	Yes	No
Acute Inhalation	Yes	No	Yes	No	No	Yes	No

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TEST PLAN (continued)

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Toxicity

Genotoxicity <i>In Vitro</i> (Bacterial Test)	Yes	No	Yes	No	No	Yes	No
Genotoxicity <i>In Vitro</i> (Mammalian Cells)	No						Yes
Repeated Dose	No						No*
Reproductive Toxicity	No						No*
Developmental Toxicity	No						Yes*

- Reduced testing requirements for Closed-System Intermediates. Actual initiation of Developmental Toxicity Testing is deferred until 2003 as instructed by EPA guidance.

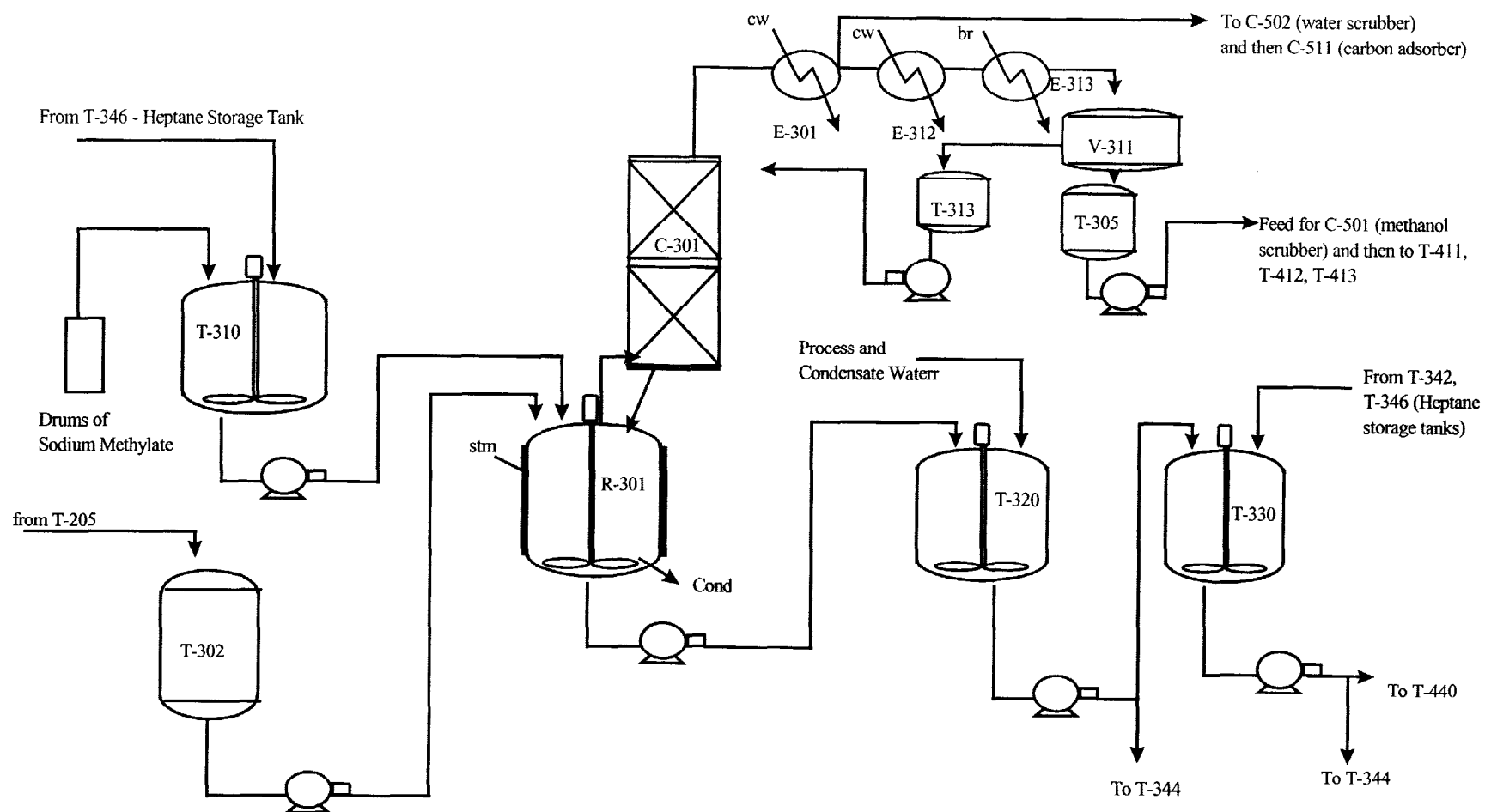
Methyl DVEster is produced at the B-34 facility in the FMC Baltimore Plant.

Process Description

Step II product (FMC 30099) and sodium methylate are reacted to produce DVester (FMC 39338) in a batch reaction. Figure 1 shows the Step III reaction system.

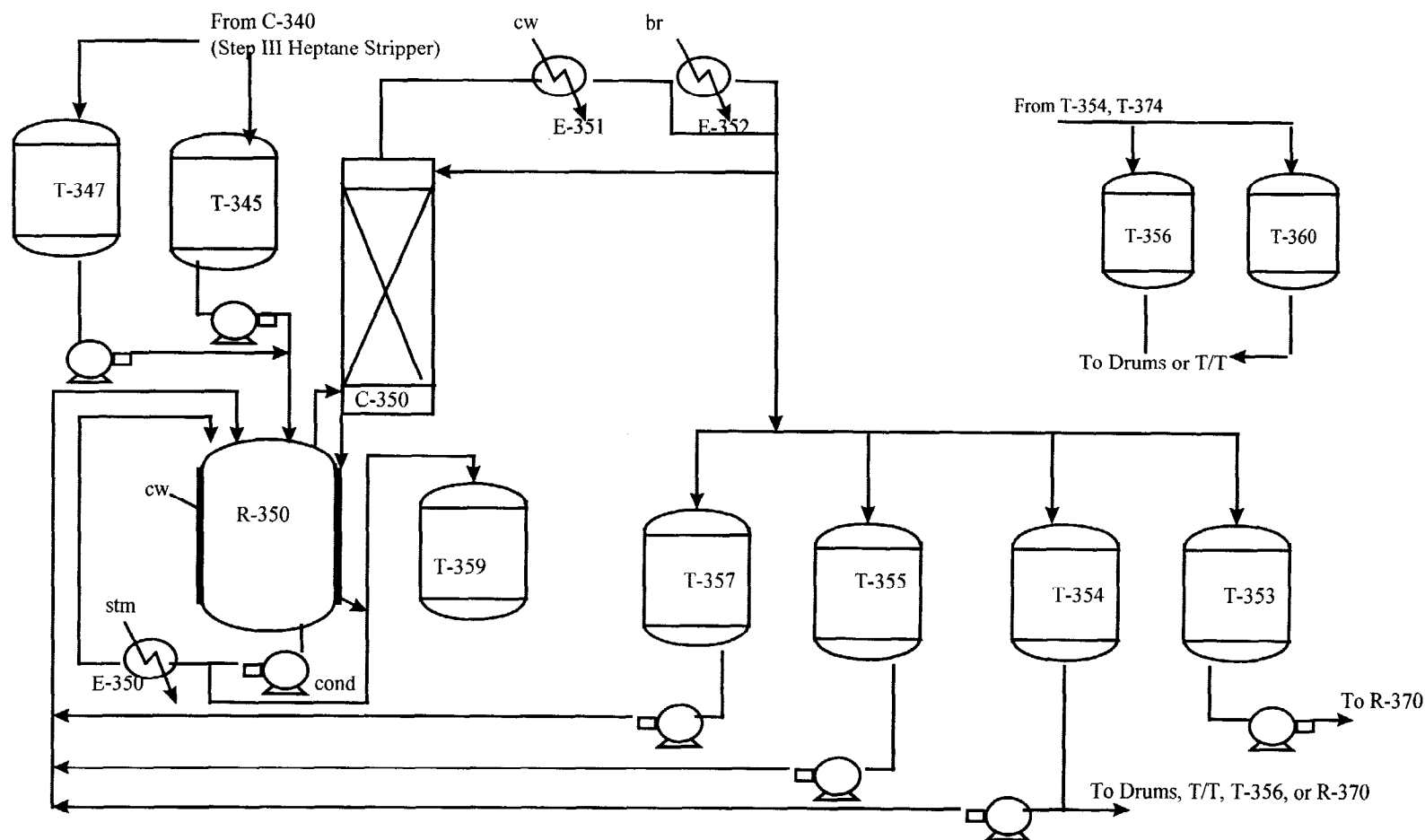
Step III product is washed with process water and steam jet condensate water to remove sodium chloride salt from the organics. The organic layer is pumped to the heptane stripper. All aqueous streams from the DVester process are collected in a storage tank which is filtered and sent to on-site wastewater treatment before discharge to the Publicly Owned Treatment Works (POTW).

The heptane stripper continuously removes heptane from the crude washed DVester. The crude DVester bottoms is pumped to an intermediate storage tank. Finished goods quality DVester is distilled in the Step III distillation system. The DVester product cut is then taken to intermediate storage. DVester is loaded onto tank trucks or drummed.



T-205 Step II Product Storage Tank	T-310 Sodium Methylate Slurry Charge Tank	T-301 Step III Reactor Column	E-301 Step III Reactor Condenser	E-313 Step III Reactor After Condenser	V-311 Step III Reactor Decanter	T-320 Step III Wash Tank	T-330 Step III Extraction Tank	T-440 Waste Water Storage Tank
	T-302 Step III Product Feed Tank	R-301 Step III Reactor	E-312 Step III Chiller	T-313 Reflux Surge Tank	T-305 Waste Methanol Surge Tank	T-344 Heptane Stripper Feed Tank	T-411, 412, 413 Waste Methanol Storage Tanks	

DVEster Distillation



T-347
Crude DVester
Tank

T-345
Crude DVester
Tank

C-350
DVester Distillation
Column

E-351
DVester Distillation
Condenser

T-357
Low Assay
Receiver

T-354
DVester Product
Receiver

T-356
DVester Blend
Tank

T-359
Bottom Tank

E-350
DVester Distillation
Reboiler

R-350
DVester Distillation
Pot

E-352
DVester Distillation
Aftercondenser

T-355
Low Cis
Receiver

R-370
DVester
Utility Still

T-353
CA's Cut
Receiver

T-360
DVester Blend
Tank

Monitoring Data

Wastewater monitoring

All aqueous streams from the DVEster process are collected in a storage tank which is filtered and sent to on-site carbon treatment before discharge to the POTW. Wastewater samples are taken before every pump down to the south plant carbon beds. In 2001, the average concentration of DVEster in this wastewater stream has been 678 ppm.

IH Data – IH monitoring was conducted in 1987, 1988, 1989 and 1991 to establish guidelines and confirm trends.

The 1987 data was a B-34 wide collection of area and personal breathing zone samples. DVEster was non detectable (limit of detection 0.5 ppm) with a guideline (FMC) of 6 ppm. In 1998, no detectable amounts of DVEster were found during the drumming of DVEster. The limit of detection was 0.5 ppm, and area and personal breathing zone samples were taken. In 1989, additional monitoring during DVEster drumming was conducted with no detectable amounts of DVEster found. In 1990, personal breathing zone sampling was conducted along with a general area sample. No detectable amounts of DVEster were found. In 1991, personal breathing zone and a general area sample was taken during DVEster drumming. DVEster levels measured averaged non detectable to 2.1 ppm with a limit of detection at 0.5 ppm.

Presence in Distributed Product and in End Use Products

DVEster is listed as an impurity with a maximum allowable level as stated in the following FMC technical products Confidential Statement of Formula (CSF):

Technical	DVEster Maximum Allowable Level (CSF) , %	2001 Average DVEster Impurity in Tech, %
Cypermethrin	1.5	0.58
Permethrin	2.0	0.60
Zeta-cypermethrin	4.0	0.92

Transport Data

DVEster is loaded onto tank trucks or drummed.

During 2001, DVEster has been transported by drum and tank truck on the FMC Baltimore facility. Within the FMC facility, DVEster is used in the production of insectide intermediates and technical products.

Also during 2001, DVEster has been transported within the United States to Zeneca in Cold Creek, Alabama. Zeneca arranges for the shipping company to handle the transport of the DVEster from the Baltimore site.

DVEster is also shipped internationally to a number of customers.

Data Search

Results from a literature search to support this closed system intermediate claim will be submitted as an addendum.